

REMARKS

This is response to the Office Action mailed March 26, 2008, and subsequent nonofficial Advisory Action forward via e-mail to Applicants' representatives. A Request for Continued Examination is filed herewith. In the March 26, 2008 Office Action, the Examiner noted that claims 1, 4-11, 13, 15-17, 19, 21, 23 and 25 were pending in the Application. Claim 5 has been amended herein. New claims 26-28 have been added. Thus, claims 1, 4-11, 13, 15-17, 19, 21, 23 and 25-28 are pending for consideration, which is respectfully requested. No new matter has been added.

Rejections under 35 U.S.C. § 103(a)

On page 2 of the Office Action, the Examiner rejected claims 1, 4, 6-11, 13, 15-17, 19, 21, 23 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Kent (U.S. 7,061,475) in view of Tanimoto et al. (U.S. 5,844,561). On page 6 of the Office Action, the Examiner rejects claim 5 under Kent in view of Tanimoto et al. and in further view of Ely et al. (U.S. 6,667,740).

In the Advisory Action, the Examiner was not persuaded that the modification of Kent in view of Tanimoto does not describe allowing a user to affect display content by mapping the affect to a 3D position of cursor. The Examiner stated that Kent teaches such a feature, and that, Tanimoto is merely used for teaching an image such as a cursor on a touch screen.

Kent relates to an acoustic touch position sensor, and more specifically, a sensor wherein a coordinate position is determined by analyzing a plurality of received signals. In other words, Kent describes determining a user's touch position by employing acoustic waves. Although Kent describes a touch interface for three-dimensional displays, nothing in Kent describes allowing a user to affect the display content of a three-dimensional display.

For example, Kent column 78, lines 12-29 to which the Advisory Action cites states:

In a particular embodiment of a cylindrical sensor for such an application, a borosilicate glass cylinder is provided... At a lower portion of the cylinder, three sets of side-by-side arrays are each provided, each array having an associated transducer. A first reflective array has reflectors at 22.5.degree., a second reflective array has reflectors at 45.degree., and a third reflective array has reflectors at 67.5.degree... This system may be used, for example, as a touch interface for three dimensional displays having a rotating helical sheet within the cylinder upon which pixels are projected.

As described above, within the glass cylinder the sets of arrays (alleged display content) interpret position information of a touch on the surface of the cylinder in three axes. However, the glass cylinder (i.e. alleged volumetric display) is merely used as an input device that

determines a position of a touch. In contrast, claim 1, for example, recites “a **three-dimensional (3D) volumetric display** output configuration having a display content [and] **an input configuration** coupled to the volumetric display” (emphasis added). Accordingly, claim 1 distinguishes between a volumetric display and an input configuration (see e.g. Figures 9-13 of the present application). In contrast, the Advisory Action appears to equate the cylindrical sensor of Kent, for example, as both an input configuration and a volumetric display. As described above, however, Kent merely describes an input configuration (albeit a three-dimensional volume), but does not describe a distinct three-dimensional volumetric display. In other words, Kent does not describe a volumetric display that displays content, but rather, the alleged volumetric display (i.e. glass cylinder) merely contains waves, for example, that determine a position of a touch. Accordingly, Applicants submit that Kent fails to describe “a three-dimensional (3D) volumetric display... having a display content [and] an input configuration coupled to the volumetric display... allowing a user to affect the display content... by mapping the affect to a 3D position of a cursor” as recited by claim 1.

Further even assuming *arguendo* that the glass cylinder in Kent describes a “volumetric display,” Applicants submit that Kent fails to describe “allowing a user to **affect the display content**” as recited by claim 1 (emphasis added). For example, Kent column 8, lines 51-64 states:

The present invention derives from an understanding that acoustic position measurement technology suffers from various limitations, which may be addressed by implementing a system with various forms of partial redundancy in the sensing waves. Thus, for each coordinate axis of the output, **a plurality of sets of waves are provided bearing information about the position of a single touch along that axis.** Therefore, any limitation in the ability of one set of waves to determine a touch position may be supplemented by information derived from at least one other set of waves.

As described above, the alleged content of a three-dimensional display (i.e. waves) is used to determine the position of a touch. In other words, the waves described in Kent provide information about *a position of a touch*. Merely determining a position of a touch, however, does not equate to a touch determining the position of content within a three-dimensional display, let alone a touch that “affects” the content. Applicants submit that Tanimoto fails to cure the deficiencies of Kent described above.

Accordingly, Applicants submit that Kent and Tanimoto, taken individually or combined, fail to describe “a three-dimensional (3D) volumetric display output configuration having a display content [and] an input configuration coupled to the volumetric display... comprising a passive

sensor allowing a user to affect the display content... by mapping the affect to a 3D position of a cursor” as recited by claim 1.

Applicants submit that the above discussion will aid the Examiner in appreciating the patentable distinctions of claims 19, 21, 23 and 25 over the cited art.

Accordingly, it is submitted that the independent claims distinguish over the cited art and withdrawal of the rejection is requested.

The dependent claims depend from the above-discussed independent claims and are patentable over the prior art for the reasons discussed above. The dependent claims also recite additional features not taught or suggested by the cited art.

New Claims

Applicants submit that new claims 26-28 patentably distinguish over the cited art. Claim 26 recites “an input configuration coupled to the volumetric display” which the cited art fails to describe. For example, as described above, Kent fails to describe both an input configuration and a volumetric display. Further, claim 26 recites “allowing a user to **manipulate** the display content... by mapping the affect to a 3D position of a cursor.” As described above, Kent fails to describe “affecting” the display content, let alone “manipulating” the display content.

Claim 27 recites the feature that “the cursor is **superimposed** within the volumetric display.” Applicants submit that the cited art fails to disclose such a feature.

Claim 28 recites the feature that “the surface of said display is a **deformable membrane surface**.” Applicants submit that the cited art fails to disclose such a feature.

In view of the above, Applicants submit that new claims 25-28 patentably distinguish over the cited art.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

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If there are any additional fees or credits associated with filing of this response, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date:

9/26/08

By:


J. Randall Beckers

Registration No. 30,358

1201 New York Avenue, N.W., 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501